Transport Statement

Dunmill Battery Energy Storage System

Ref	05104-6955339

Revision History

Issue	Date	Name	Latest changes
01	19/12/2023	Antonis Poulakis	First Issued
02	10/01/2024	Antonis Poulakis	Update delivery table (Appendix B)
03	17/01/2024	Antonis Poulakis	Minor text corrections

Contents

Appendices

1 Introduction

This transport statement has been produced to support the development of a 49.9MW Battery Energy Storage System (BESS) near Bridge of Dun Substation by Renewable Energy Systems Ltd (RES). Its principal objective is to provide details of the proposed transport management arrangements during the construction of the project and to provide details of transport movements during construction and operation of the project.

1.1 Description of the Site

The works will comprise the installation of a 49.9MW Battery Energy Storage System. The BESS will consist of several battery enclosures, associated foundations, transformers, inverters, electrical infrastructure, security infrastructure, access track, crane hardstanding, and storage containers.

During construction, temporary construction facilities will include site offices, welfare areas, parking and storage areas for plant and materials.

2 Transport Route

2.1 Description of the Route to Site

It is proposed that all equipment and construction material deliveries shall take the following route to site:

- Head north into Montrose along the A92, or south on the A90 if coming from the North.
- Turn onto the A935 and head west toward Brechin.
- Approximately 350m after the entrance to the House of Dun & Angus Folk Museum, turn left onto Zu444-1 as if heading towards the Bridge of Dun.
- Approximately 300m along this road the site entrance will be on the right.
- Once inside the site, follow the internal access track roughly 450m (making sure to follow any and all signage instructions) to the main compound.

In the event of any road closures on the delivery route, all vehicles will follow the designated diversion route.

An indicative transport route can be seen in ***Appendix A***.

2.2 Strategic Road Network Assessment

The proposed battery storage site sits on the land to the east of Bridge of Dun substation.

2.2.1 A92 or A90

The A92 is a major road that runs through Fife, Dundee, Angus, Aberdeenshire, and Aberdeen City in Scotland. From south to north, it runs from Dunfermline to Blackdog, just north of Aberdeen. A92 is a dual carriage until Muirhead that turns into a single carriage road.

The A90 road is a major north to south road in eastern Scotland, running from Edinburgh to Fraserburgh, through Dundee and Aberdeen. It is one of the three major north-south trunk roads connecting the Central Belt to the North and it is a dual carriageway.

2.2.2 A935

The A935 is a road between the A90 at Brechin and he A92 at Montrose, Scotland and it is a single carriage road.

2.2.3 Access road to rear of Mains of Dun (Zu444-1)

The Zu444-1 is a rural single carriage carriageway type road leading from the A935 towards the Bridge of Dun.

2.2.4 Site Access Track

The access track utilised in accessing the site begins at the existing entrance just to the west of the mains of Dun. which is currently used for agricultural uses. Site access track will head toward the northeast corner of the field where it will then bend left, heading west toward the site compound.

Figure 1 – A92 heading North

Figure 2 – A90 heading North

Figure 3 – A935 heading East

Figure 4 – Zu444-1 heading West looking the site entrance junction

3 Construction Traffic

3.1 Delivery Vehicles

3.1.1 Civil Engineering Construction

On site hardstanding areas, tracks and equipment foundations shall be constructed using stone and concrete. The majority of deliveries at this stage will use tipper lorries, concrete trucks and flatbed trucks. Plant required for the works will also be delivered on low loaders or other suitable transportation vehicles.

3.1.2 Large Component Deliveries

These components shall be delivered using articulated lorries. Associated goods such as smaller components, tools and other equipment will be delivered on flatbed trucks and low loaders. The majority of deliveries will fall under the UK Standard Vehicle Regulations. Large components will typically be installed by mobile crane.

The scope of the construction project does not entail any abnormal loads being delivered subject to supplier confirmation. Should the need for an abnormal load or STGO vehicle(s) be identified during the development of the final delivery solution and confirmation of the final supplier, the route will be fully assessed, and suitable measures implemented e.g. the use of escort vehicles, as required by law.

3.1.3 Miscellaneous Equipment

Electrical and communications cables, fencing panels, drainage materials and other such miscellaneous materials will be delivered to site on flatbed trucks or low loaders. Occasional deliveries of small packages will also take place with vans and other light goods vehicles.

Site offices, welfare facilities and equipment storage containers will be delivered on flatbeds and low loaders and will be maintained on an ad-hoc basis.

Regular deliveries of fuel and water for the site plant will be made using a mini tanker and removal of chemical toilet waste will be made using a mini tanker.

3.1.4 Staff/Workforce

The daily commute of workers in cars, vans and small trucks will form a large proportion of the site traffic. However, the chosen Contractor will encourage all sub-contractors, labourers and tradesmen to car/van share for their journeys to and from the site to reduce the number of vehicle movements involved. Parking for the workforce will be fully accommodated on site. Parking on, or near to, the adopted highway will not be required.

3.2 Vehicle Movements

Throughout the construction phase there will be a combination of HGVs (for the component and material deliveries) and cars/vans (for construction staff), on site. HGV movements are expected to be most intense throughout the first few weeks of construction whilst car/van movements are expected to be constant throughout. An estimated number of deliveries and movements for the main infrastructure can be found in the delivery table in ***Appendix B***.

Vehicle movements can vary depending on site conditions, programming, weather restrictions, etc., and therefore these numbers should be treated as a guideline only.

The expected HGV volumes are based on best estimates of trips generated for similar sized battery storage facilities and will be subject to amendments based on local conditions, working practices and timing of works.

Sufficient time will be provided between deliveries to allow for any delays (such as loading / unloading taking longer than expected) and to avoid any vehicles waiting.

3.3 Passing Places

During correspondence with Angus Council, the need for passing places has not been identified within delivery transport route. Narrower sections of the Zu444-1 could accommodate passing places if required, any such locations would be identified and agreed prior to the start of construction. The detailed design of the passing places will be in accordance with Design Manual for Roads and Bridge (DMRB) or with any guidance provided by Angus Council at this stage.

3.4 Traffic Management

Details of the potential traffic management arrangements during the construction phase will be agreed with Angul Council. Any operations will be performed in accordance with local and national standards and specifications.

3.5 Timing Restrictions

It is anticipated that all traffic movements will be carried out between 08.00 to 18.00 on Monday to Friday and 08.00 to 13.00 on Saturdays and at no time on Sundays or Bank or National Holidays unless otherwise agreed in advance with Angus Council.

3.6 Programme of Works

The programme of works is anticipated to take place over approximately a 12-month period. An initial indication of the programme of works is provided below.

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Setup site welfare												
Construct site entrance												
Construct site tracks and hardstandings												
Construct drainage works												
Construct foundations												
Install battery enclosures												
Install batteries and PCSs												
Onsite cable works												
Substation installation												
Grid connection works												
Energisation												
Commissioning												
Testing												
Handover												

Table 2 - Indicative Programme of Works

A detailed programme of works will be produced prior construction commences.

4 Construction Activity

4.1 Site Access and Entrance Work

The access track is intended to utilise the existing grassed track to the east of the site, leading directly from the Zu444-1 road to the ear of Main of Dun, north about 200m. From here the remaining access track will be constructed leading to the site compound.

4.2 Construction Working Areas

During construction, a temporary construction working area will be set up within the wider field for construction works and temporary facilities. The temporary facilities will include site offices, welfare areas, parking, a turning area for vehicles, and storage areas for plant and materials. Once construction of the site is completed, all portacabins, machinery and equipment will be removed from site.

Vehicles will drive into the site forwards, turn around on site and exit forwards. Measures shall be in place to manage the timing of the delivery of material and plant to the site; if the site has insufficient space to accommodate a delivery (e.g., due to an ongoing delivery or obstructive site works), the delivery vehicle will be instructed to wait in a safe location, remote from site if necessary, until suitable space is available.

4.3 Mud Prevention Measures

During the works, measures shall be in place to ensure that mud and debris is not spread onto the adjacent public highway. The public highway will be regularly inspected, and any deposited debris or mud will be dealt with immediately by means of a road sweeper.

Cleaning of vehicles, including provision of wheel washing facilities, prior to exiting site onto the public road is expected to ensure mud is not spread out of site.

4.4 Pollution Control

Best practice measures will be implemented to minimise pollution due to construction. These measures are detailed in the Construction Environmental Management Plan (CEMP) which forms a separate document to this.

4.5 Emergency Services

The Police, Fire and Ambulance service will be given written notice of the construction works and invited to site for an additional briefing.

4.6 Local Services

RES will make every reasonable effort to ensure that there is no disruption to local services e.g., bin collections and school buses.

5 Operational Activity

5.1 Routine Operational Phase Traffic

Once operational, the facility will be remotely controlled and as such will be unmanned. However, there will be a visit to the site approximately once a month by car, van or light goods vehicle, to carry out regular inspections and routine maintenance. Parking for these visits will be accommodated on site.

5.2 Non-Routine Operational Phase Traffic

It is possible that one or more medium or large components may require replacement during the operational life of the facility. The nature of the traffic associated with such works will be similar to that used in the construction phase of the project but will be present for a much shorter duration. Should the scale of the works be such that traffic management measures would be required to manage vehicle movements to and from the site, the necessary permissions shall be sought from the local authority in line with due process.

Appendix A – Indicative Access Route

05104-RES-ACC-DR-PT-001.pdf

Appendix B – Delivery Table

Task Description	Class	Month												
		1	2	3	4	5	6	7	8	9	10	11	12	Total
Site Mobilisation/Demobilisation	HGV	30											30	60
Temporary Fence Delivery	HGV	30												30
Site Welfare Maintenance	HGV	2	2	2	2	2	2	2	2	2	2	2	2	24
General Site Deliveries	HGV	2	2	2	2	2	2	2	2	2	2	2	2	24
Imported Stone	HGV	125	125	125										375
Concrete Delivery	HGV			17	17	17								51
Onsite Battery containers, PCS and Transformer Unit Delivery	HGV				13	13	14	14	13	13				80
Battery Deliveries	HGV						19	19	19	19				76
Electrical Equipment Delivery	HGV						5	5	5	5				20
Substation Equipment Delivery	HGV						2	1	1	1				5
Cable and Ducting Delivery	HGV			10	10	10	15	5	5	5				60
Permanent Fence Delivery	HGV										30			30
Spare Container Delivery	HGV										1			1
Construction Staff	CAR/LGV	450	450	450	450	450	450	450	450	450	450	450	450	5400
Cars/LGV		450	450	450	450	450	450	450	450	450	450	450	450	
HGV		189	129	156	44	44	59	48	47	47	35	4	34	
Total Car per day		21	21	21	21	21	21	21	21	21	21	21	21	
Total HGV per day		9	6	8	2	2	3	3	3	3	2	1	2	

KEY:

- DELIVERY ROUTE
- ACCESS POINT

1	BM	PD	PD	2023-12-19	FIRST ISSUE
ISSUE	DRAWN	CHKD	APPD	DATE	REVISION NOTES

PURPOSE: PLANNING	COORDINATES: OSGB 1936
SCALE: 1:10,000 @ A1	DATUM: N/A
LAYOUT DWG: N/A	T-LAYOUT NO.: N/A

PROJECT TITLE
DUNMILL
ENERGY STORAGE FACILITY

DRAWING TITLE
ACCESS ROUTE

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